



Unclassified



Improving Analytical Support to the Warfighter: Campaign Assessments, Operational Analysis, and Data Management

Working Group 1 ***Data and Knowledge Management***

Chair – Mike Baranick, NDU/CTNSP
Co-Chairs – David Knudson, CAA
Dave Pendergraft, HAF/A9
Paul Evangelista, TRAC Monterey

19 – 22 April 2010

Participants

Mike Baranick (Chair)

Dave Knudson (Co-Chair)

Dave Pendergraft (Co-Chair)

Paul Evangelista (Co-Chair)

- John Applebaugh, CTNSP
- Jerry Baird, USA/CAA
- Curtis Blais, NPS MOVES Inst.
- Rick Bloser, AFSPC SMC/XR
- Bill Balkovetz
- Larry Chinnery, USA/JIOWC
- Joshua Eicher, HTS Afghan RRC
- Brian Efird, NDU
- Paul Ferguson, LMC
- Don Hodge, AMSAA
- Jack Jackson, TRAC
- Christina Krause, CAA
- Jonathon Lee, HTS Afghan RRC
- Andrea Mejia, Battelle
- Danielle Miller OSD CAPE/JDS
- Amy Pankau, TRAC
- George Rollins, OSD CAPE/SAC
- Al Sciarretta, CTNSP
- Peter Selfridge, DARPA/AEO
- Arun Shankar, USMC/MCCDC
- Matthew Wehner, NSWG-3
- Taylor Wilkinson, CTNSP
- Arthur VanDelay
- Bill Young, SAIC



WG 1 Purpose/Focus

- Assist Military Analysts:
 1. To better understand the analytic requirements for irregular warfare (IW).
 2. To develop methods and procedures for identifying, gathering, organizing and preserving data.
- We intend to accomplish this task by using questions posed by MG Flynn and Mr. Bauman, along with speakers to help to stimulate discussions.

Data and Knowledge Management Working Group

- Key Data Questions to be answered:
 - What questions are we trying to answer?
 - What are key measures?
 - What are the data requirements?
 - What data are available? Where does the data come from?
 - How are data assessed? Who does the assessments?
 - What tools are we using for analysis?
 - What is the unit of analysis? What are its characteristics?
 - What are the impediments data collection and measurement?

Proceedings (1 of 4)

- 20 April
 - **“Setting the Stage,”** Mike Baranick, Chair
 - <http://www.ndu.edu/ctnsp/home.html>
 - **“Data or Information: What Do We Need, Why Is This So Hard, What Is Missing?,”** Don Hodge, AMSAA
 - <http://web.amsaa.army.mil/>
 - No time for additional discussion

- 21 April (1 of 2)
 - Discussion of need to include data collection in training, George Rollins, OSD CAPE
 - IW CAPE JDS interactive collaborative website (Wiki)
 - https://defensemetawiki.pae.osd.mil/DAC/index.php?title=Irregular_Warfare_Main_Page
 - ***“Data Issues,”*** Christina Krause, CAA
 - <http://www.caa.army.mil/>
 - ***“Exploratory Data Analysis,”*** Paul Evangelista, TRAC-Monterey
 - <http://www.nps.edu/research/TRAC/>
 - Group discussion of data needs for “Security,” led by Mike Baranick
 - ***“Data on Corruption in Afghanistan: Where to Find It, How to Use It,”*** Bill Young, SAIC
 - Supporting information:
<http://www.scottshelmandvalleyarchives.org/>

- 21 April (2 of 2)
 - ***“Application of ORSA Techniques at the Tactical Level,”***
Maria Vedder, TRAC Monterey
 - <http://www.nps.edu/research/TRAC/>
 - ***“Stove-Piped Data Sources for Irregular Warfare (IW) Human Behavioral Modeling,”*** Brian Efird, NDU/CTNSP
 - <http://www.ndu.edu/ctnsp/home.html>
 - **“Overview and Introduction to Human Terrain System,”**
Mike Weltsch, HTS/AFRRC
 - Wiki: http://www.intelink.sgov.gov/wiki/portal:human_terrain_system
 - SharePoint Site: <https://hts.army.smil.mil/afghanistan/default.aspx>
 - Group Discussion

- 22 April
 - Group Discussion
 - Development of outbrief



WG 1 Findings

Questions to be Answered

- Should there be a stronger proponent for IW analytical efforts?
- Is there an institutionalized methodology for IW data collection/storage/access/sharing?
 - Internal and external to DoD
 - Particular emphasis on unit-level data efforts
- Is there a Code of Best Practices (CoBP)?
- Is there a collaborative tool available for accessing relevant IW data and tools?
- Is there a central repository (may be pointers) of IW data, tools, and POCs (those working on analytical efforts)?
- How should ORSAs be integrated into the commander's staff?
- What education and training is needed to enhance the utilization of ORSA assets?



WG 1 Findings

Tools Needed

- Social networking tools (within and external to restricted networks) for
 - Enhancing collaboration among ORSAs
 - Accessing SMEs in OR and Social Sciences communities
 - Allowing interactions among DoD and non-DoD personnel
 - Leveraging existing/ongoing analysis efforts
- Tools (e.g., gateways) to translate data – data should be “fluid” – for processing and visualization by multiple systems
 - Include open source databases
- Repositories
- Tool for visualizing output of IW analysis efforts



WG 1 Findings

Ways Forward

- (CTNSP) Develop/publish a paper(s) that addresses data issues and their impact on the Warfighter
 - Coordinate with WG 1 participants
 - Goal: To encourage creation of stronger proponent
- Identify collectors who are not housing their data and create a data stream for their “homeless” data
- Develop a better understanding of knowledge management needs
 - Contact a knowledge management professional
- Use successes to attract other relevant agencies into the effort
- (JDS) Develop standards/procedures for cataloging data



WG 1 Summary

- Establish stronger proponent
 - Need to institutionalize analytic best practices and lessons learned
 - Analysts in CONUS need stronger lateral connections
- Many data/analysis issues, including
 - Data coming out of theater is perishable
 - Unless captured and saved, it will be lost permanently
 - Data not always representative and tagged
 - Protocols for releasability of data inhibits sharing
 - Quantitative data collection needs to begin with a qualitative description of the problem
- Mike Baranick, CTNSP, will lead development of paper that addresses issues and recommendations discussed in WG1



WG 1 Recommendations (1 of 2)

- Change DoDD 3000.07 to appropriately address IW data policy (collection, storage, accessibility, integration, etc.)
 - Current text....“The Director, PA&E, shall....With the Chairman of the Joint Chiefs of Staff and in coordination with DoD Components, manage the development and use of appropriate analytical models, tools, and data to support the analysis of the U.S. Armed Forces for IW.” (pp. 7-8)
 - Each Component shall identify an office of primary responsibility
- Establish proponents for IW data, tools, methodologies, personnel issues, manning, etc.
 - Strategic: CAPE for policy (for tools, models, and simulation)
 - Operational / Tactical: **<fill in>** (for IW data, tools, methodologies, personnel issues, manning, etc.) – includes responsibility for:
 - Development of requirements
 - Formalizing TTPs (includes standardization)
 - Data collection, cleaning, maintenance, warehousing, release-ability
 - Training
 - Resources

 = modelers and those looking for data standardization and access
 = analysts and those concerned with sharing of tools and TTPs
 = applies to both or neither



WG 1 Recommendations (2 of 2)

- Improve technology usage (for data collection, verification, storage, access, exchange, and assessment), including:
 - Use military ISR assets/data to corroborate human terrain data being reported
 - Enable use of open source tools (Perl, Python, Ruby, etc.)
 - Leverage IT tools
 - Leverage use of IT used by soldiers – e.g., develop military APPs for iPods
 - Have the analytical community develop requirements
- Enable/institutionalize collaboration for sharing of analytic tools and TTPs
 - e.g., Social networking tool – A Space, companycommand.com, ORSA.net, etc.
- Initiate procedure for dealing with select data
 - When units deploy back to CONUS there is a need to preserve select data (TBD)
 - For example, transfer all “homeless” data to centralized point
- Establish an enterprise solution (e.g., ENDURE) and an architecture for data exchange (tagging geography, culture(humans), and time)
 - Must include access to non-DoD (especially NGO) databases
 - May need directive from as high as National Security Council
- Establish unified data warehouse

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